4-86

ZERO BEAT

SPECIAL SERVICE CLUB

AMSAT

Hampden County Radio Association

Springfield, MA | April 1986 | ARRL Affiliated, 38th Year

NEXT MEETING:
FRIDAY APRIL 4th

SGT LONGHI, CRIME PREVENTION OFFICER AT AGAWAM PD, WILL SPEAK ON PROTECTING YOUR HOME AND POSSESSIONS FROM THEFT. SLIDES, A FILM, DEMONSTRATIONS AND A TALK WILL BE DONE.

Feeding Hills Congregational Church, Intersection of Routes 57 & 187, Doors open at 7:30, meeting at 8 pm

CQ DX

DX Notes: Tonga: ZL1AMO was active as A35EA. He will be going to **Western Samoa** as 5W1CW, followed by **Tokelau** as ZK3RW. ZL1BQD will also be active from **Tokelau** as ZK3RRA. **Malaysia:** 9M2HB has been on 14227 KHz regularly from 0001Z. **Central African Republic:** F6DCL/TL8 has been active on 14022 KHz around 2145Z. QSL via F6KFI. **Comoros:** D68WS has been active on 14183 KHz at 1900Z. **Franz Josef Land:** UA1OT has been active on 7005 at 0200Z. **Norfolk Island:** VK9NS has been active on 7003 KHz at 0630Z. **Diego Garcia:** VQ9SK has been active daily from 1500 Z to 1800 Z on 21280KHz. QSL via **WB6SKS. Solomon Islands:** H44IR is active 7007 KHz at 0800Z. **Tanzania:** 5H3ED is active on 21022 KHz about 1600 Z. QSL via I4FGG. 5H3CE is acitve on 14040 KHz at 1900 Z. QSO via IK6BOB.

The ARRL Letter

HCRA Banquet
FRIDAY JUNE 6TH

DX CALLBOOOKS FOR SALE!
CONTACT RON BEAUCHEMIN
413-739-5228
$18.00

HCRA FLEA MARKET

SUNDAY MAY 4th
ELK'S LODGE, MORGAN ROAD, WEST SPFLD

Admission $1.00 Tables $5.00

9 am to 3 pm

Info: 413-596-8216 Steve Nelson

JOB OPENING: Editor of "Zero Beat" starting with September, 1986 issue. Must be able to read and write, and helps to be deaf when listening to nerds and jerks complain about each issue. Contact Bob McCormick at 413-786-7966

FOR SALE: Kenwood TR2500 handheld, 10 memorys, scanner, battery pack, sm 25 speaker/mike, ms-1 mobile stand. $235.00 Steve WA1EYF 413-596-8216

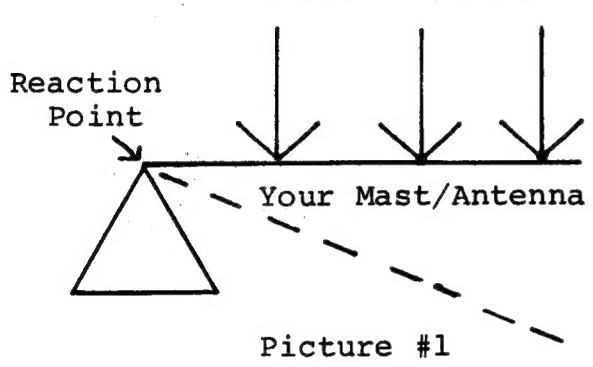
FOR SALE: Swan 350 with 117x power supply, $225 or BO. Want a copy of a Mosley TA33jr instruction sheet WA1UWX Jim O'Brien, Box 145, N. Hatfield, MA 01066 413 247 9205 Eve's & weekends

Dues are $9.00 per season, September thru June. Please mail to: N1AEH, Greg Stoddard, 1500 Mapleton Avenue, Suffield, CT 06078. Thank you!

KEEPING IT UP!

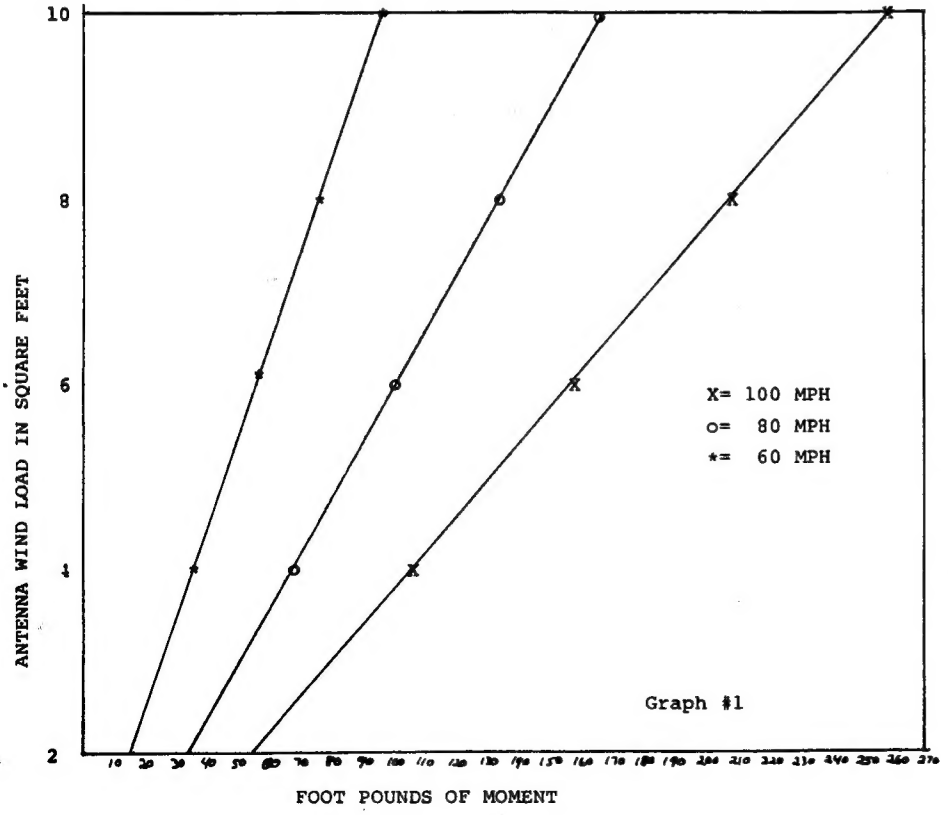
I thought I'd make a few short comments about structurally sound tower antenna installations. The thought and planning that goes in beforehand keeps your big beam in the air!

Whenever you put an antenna up, certain forces start to work to knock it down. The pressures involved can be much greater than imagined. (See picture #1) Here you can see how the surface the antenna shows to the wind, and the mast, create a force or "moment" that wants to push your tower over.



Picture #1

The size of the moment depends upon your antenna and the speed of the wind. Refering to graph #1, we can quickly compute the force:



Using graph #1, let's take a hypothetical installation. You've just bought a "super Signal Zapper", that has a 7 square foot wind factor. The manufacturer's specifications also tell you that this antenna will survive 100 miles-per-hour winds, which is a "worst case" situation to plan for. Looking at graph #1, at 100 mph and 7 sq. ft., the moment is approximately 180 foot pounds. Refering to the February Intermod, or to graph #2, I see that a 1 inch schedule 80 pipe will withstand 200 ft./lbs.

Nom. pipe Size	Maximum foot pounds of torque it can withstand
1"	200
1 1/4"	364
1 1/2"	514
2"	913

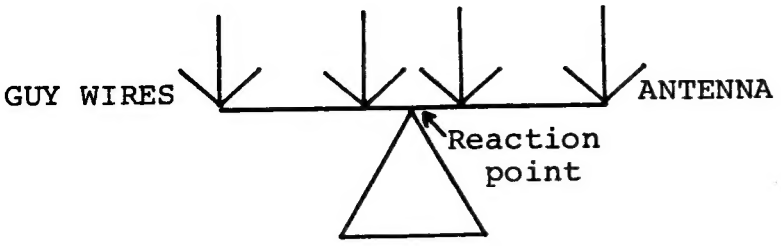
ALL FOR SCHEDULE 80 PIPE. FOR SCHEDULE 40, SUBTRACT ABOUT 25%.

GRAPH #2

However, I want to mount my beam up 4 feet from the rotor. So I must multiply the 180 x 4 to get 720 ft./lbs. This would destroy the 1" pipe, so looking at graph #2, I find out that 2" schedule should be used to be safe. (Or I could mount the beam lower and use a smaller pipe.)

However, You don't have to use BIG pipes just to keep the beam up. By guying the mast, you provide and opposite reaction force to the moment. See picture #2.

So you could use a smaller pipe just by guying it below the antenna.



Picture #2

Due to the large number of different types of cables available, no iron rules can be set forth for strengths. However, you can generally say that a #12 guy wire will support 1,000 pounds. Using 3 or 4 guys on your mast should hold against the wind with force to spare. A note of caution: kinks, poor mechanical connections, rust, abrasion, corrosion, and age drastically affect a cable's strength. Four guys at 90 degrees apart for every 30 feet of mast should give you the needed margin of strength.

If high winds are expected, you can increase your beam's life expectancy several ways. If possible, climb the tower and disconnect all cables and the rotor brake. Then the beam will swing in the wind rather than fighting it. (Obviously you don't do this if the high winds are already there!) Turn the smallest side into the wind to offer the least surface area. With most antennas it would be as if the wind were rare DX and you wanted to work him. A tower that can be lowered will also reduce the moment on it.

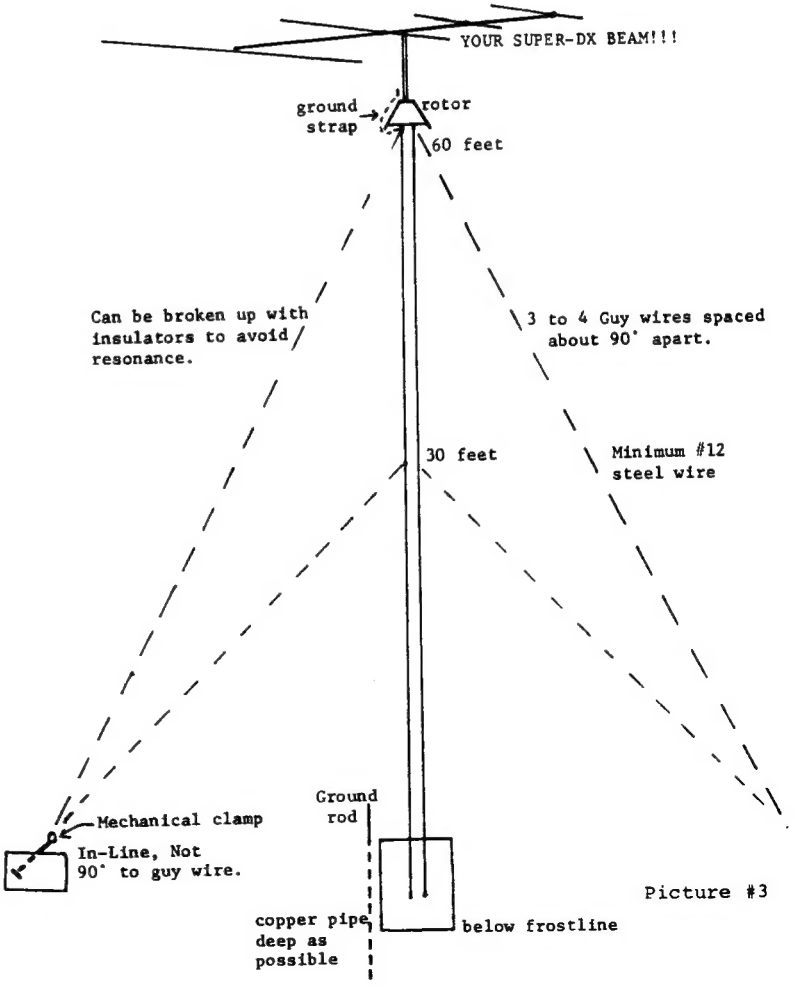
The subject of grounding is an article by itself. Two quick things: put the ground rod deep as possible, and not into the concrete base. Run a ground strap across the rotor to be sure the antenna grounds out to the rest of the tower.

Just a few other things to be aware of: Drilling holes in a mast or antenna boom drastically lowers its' strength. If you drill the hole at a reaction (stress) point, you're inviting catastrophic failure!

The guy anchors should be able to withstand the pull of the tower. I've seen $1,000 dollar tower/antenna installations fall over because they used coffee cans filled with cement for anchors. Picture #3 gives you the gist of a sound tower installation. Good luck and good engineering on your next tower!

FOR SALE: Yaesu 101ZD Mark III, with VFO mint cx, $650.00 TS130SE, PS30, Mobile bracket, mike, $450.00 Kenwood 2000 meter, SWR, PEP, w/ coupler, $100. Frank 617-763-5204

For sale: oscilloscope, Tektornic 535, $100. Tentec argonaut 509 Qrp Xcvr, 10-80, many extras, $240. Memtrix freq counter, $125. RME 6900 rcvr $75. Kenwood dip meter, $40.00 Al NA1W 413-788-9845 after 6 pm



Picture #3

SPEED VERSUS NECESSITY

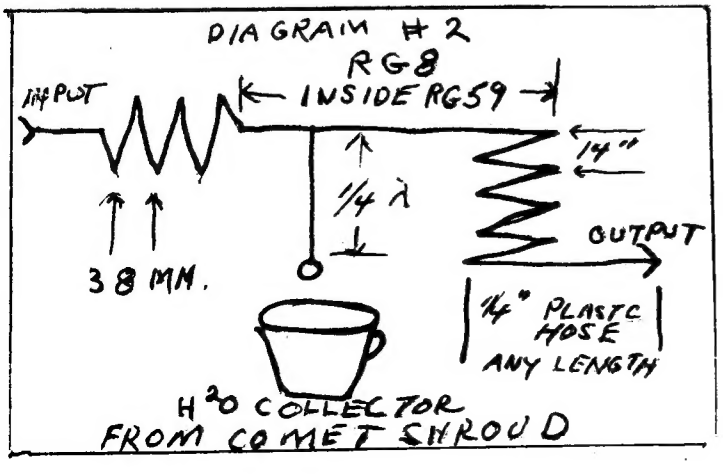
Countless numbers of scientists have deleved into the study of the speed and motion of light and radio waves. To all it soon became apparent that the speed must be increased. The once approved theorem of 186.000 miles per second, the speed of light, is no longer acceptable in today's high technology universe.

The Guild of Universal Luniars and Physicists (GULP) has succeeded in increasing the speed of light, and subsequently radio signals more than 100 fold.

Spearheaded by Dr. Olaf Tootcil Ogatson, who for 78 years has worked in his astro-physical laccolith laboratory on the northern tip of Greenland has positive proof that the speed can be increased. And, in fact, did just that! Dr. Ogatson successfully imbedded his radio signals in Halley's comet and had them remaine long enough to gain the comet speed, plus the 186,000 M.P.S.

Since Halley's Comet speed is in excess of 8.3 million miles per second the total speed of the radio signal when Dr. Ogatson withdraws them has a minimum speed of 8,486,000 M.P.S. By leaving the signals imbedded for longer periods of time the speed can be increased even more.

To date only CW signals have been imbedded. Yet, even with the simple continuous wave signal certain obstacles hadto be overcome before decoding of this mode was accomplished.



As signals are sequentially imbedded, the withdrawal is such that the last character in, is the first character out. Therefore decoding requires the retracting of the intelligence in batches, and then they must be reversed.

The reversal, Dr. Ogatson states is accomplished by using a 1722cl-203 solid state device, an Ogatson development. (See footnote #1) The output of the chip now becomes the input and the input becomes the output. This is how the reversal of the signal is effected. The paramount obstacle to the capture of the intelligence is the slowing down of this super high speed signal. This is accomplished by the development of an electronic zig zag delay line, also know as Olaf's point apex de-pilerupera. See diagram #2.

Every Tuesday and Thursday, Dr. Ogatson transmits and retracts signals from Halley's comet on 14.001 MHZ (CW) from 0001 to 2830 GMT.

If you desire to intercept these signals and QSO with Olaf, aim your beam southwest. You can decode the signal two ways. The easiest with the use of a computer set at 19200 baud, or construct the Electronic double Z dealy line. Dr. Ogatson will QSL and answer any questions. His address is:

Dr. Olaf Tootcil Ogatson, OX1ICE
April Way Plaza RFD 1
Muckluck, Artic Circle, Greenland
Telephone 1-800-Q-186000

Footnote #1: Dr. Ogatson, well known for several outstanding inventions and developments was awarded the "Noble" Humanities award for his non-sinkable submarine. Developed in conjunction with B. F. Goodrich Helium Centre. Also his most famous invention: A frameless door with two invisible panels. See Figure 1. Under artic conditions it is possible to both enter and leave a muckluck hut without opening the door, thus reducing loss to inside heat or creating a draft.

de Ed White, W1NPL, New England Secretary of G.U.L.P.

Footnote #2: To Tom Barret, W1KUE, who worked Olaf, we say congratulations and good health to you.

CONNECTICUT VALLEY CONTESTING

As you may know, I came to be associated with ARRL and QST initially because as K.B. Warner told you, "Everytime I listen on 5 meters I hear you on there." He paid me two personal visits in 1939, just "to see where all the noise comes from." Out of these visits came an invitation to produce a monthly "UHF" Department in QST. The first one, called "On the Ultra Highs" appeared in QST for December, 1939. I have been in every issue of QST since, in one way or another.

I worked for FW Sickles Co. until I left to take a job as a Radar Field Engineer for Raytheon, 1943 to 45, intending to return there aftter the war. But KBW offered me a full-time job with ARRL, so I never went back to Sickles, as I had intended to do at the War's end.

Warner wanted to do everything he could to build ham interest in "The Ultra Highs". I used to go down to W. Hartford to talk with him frequently about the future of Amateur Radio on the higher frequencies. He was worried that we could lose HF privileges, perhaps fairly soon, unless ARRL could show that hams were good for the future of radio as a whole. His mind was always looking far ahead, searching out problems and solutions before most people were even aware that problems existed.

Ed Handy also gave me a lot of his time. He wanted to see "VHF" grow, too. Both he and Warner feared possible loss of HF, and they wanted to see a large body of hams ready and to take such an event in stride. Between KBW and PEH, I got a whole new vision of the future of Ham Radio, and my place in it.

Ed's feeling was that "contests" having been growing in popularity in the 30's should be devised to include the "VHF" bands. We had much talk on this and several possible adaptations of the contest idea were discussed at considerable length, both before and after WWII.

We experimented with many contest forms over the early years, eventually going to the 3 per year format still used. I felt that something as much like the more popular HF activities could develop for what had become "VHF" after WWII. The VHF SS, with its message-type exchange, copied the very popular HF Sweepstakes. It caught on at once, and has always been popular, right from the start.

Our flaw in the picture was that operators and clubs in the big-city areas of the East always seemed to win - and this is obvious from the accompanying summary of the results of the first 9 VHF Sweepstakes.

I had and idea to help boost participation in the VHF SS on the part of the hams and clubs in the Conn. Valley area. I was active in the Hartford County Amateur Radio Association, and knew about everyone in HCRA, too. So I proposed a local competition between the 2 valley clubs. We were similar in size, and there was much to be gained for all in improving the use of VHF in the Valley. Basically the proposition was that both clubs would compete in the annual VHF Sweepstakes. The winning club would be the guests of the losers - at a joint dinner meeting ata point selected by the host club. It was on a Dutch Treat basis, everyone paying his own way, but with the "losers" handling the arrangements. I can't recall how many years this lasted, but it did make for a lots of good times., and friendly competition between the two large and active club. I can't recall why it was ever stopped. It was too good a thing to lose, it seemed to me.

And you can see from the statistics what it did for local activity. I haven't checked on the years after 1956, but you can see that some pretty good scores were run up. Note that our club was <u>second</u> in the national club standings in 1956, and was never below 6th in those 7 years thru 1956. HCRA has (2) 3rds, (2) 4ths, and (1) 5th in the same era. We would never have done that well without our own Valley contest, I'm sure! And it <u>was</u> fun, too!

CONNECTICUT VALLEY COMPETITION

NR.	YEAR	NO. OF CLUBS	CLUB WINNER	CLUB TOTAL	CLUB AWARD	HCRA	HCARA	CLUB CERT. WINNER
SS#1	1948	16	Frankford RC	7374	W3BES	-----	-----	
2	1949	15	Frankford RC	15760	W3BES	14th W1QWJ	-----	
3	1950	14	VAF Inst. NY	36379	W2TBD	14th W1RFU	6th W1QBH	
4	1951	13	York Road RC	30503	W3KKN	8th W1RFU	3rd W1HDF	
5	1952	16	SJRA	31526	W2BV	11th W1RFU	3rd W1HDF	
6	1953	18	SJRA	30493	W2PAU	5th W1RFU	4th W1PHR	
7	1954	27	SJRA	44174	W2BLV	4th W1RFU	5th W1PHR	
8	1955	30	SJRA	52361	W2TBD	3rd W1RFU	4th W1VLE	
9	1956	29	SJRA	49431	W2TBD	4th W1RFU	2nd! W1VLE	W1DXE

This has been rather rambling. If there are any specifics you'd like that I might be able to give you, let me know. Though we "live" in Florida now, I will always be a "W1" in more ways than just my call letters, I guess. I get a special kick out of occasional E skip openings on 50 MHZ, when my friends in New England pile in here almost as strong as they used to in Canton. It certainly does sound good! We enjoy living here very much - and it certainly is easier for us old folks (I'm 78 now) than CT - especially in winter!

There is an interesting side benefit in living where we do. Believe it or not, we can see satellite launches from the Kennedy Space Center from our front yard here in Spring Hill. It's over 100 miles airline, but we have seen some of them incredibly well, including the tragic Challenger, recently. We knew, even at such great distance, that something was tragically wrong, even before a word was said about the trouble on radio and TV. We've made some very beautiful pictures, when weather is optimum. We were so shocked by this recent tragedy that we may not have done too well, this time. (The film is still in the camera!)
Expect to have Bill Sheedy, K1ZFE here next week. We may do some antenna work if WX holds good - which it is about 99% of the time here. Want to do better on 7 MHZ, which might be the best bet, then, for working up to our New England friends - at present levels of Solar activity.

73 for now
Ed, W1HDQ

PS: "Contributing Editor" was a title invented by KBW to cover my special status as a paid contributor, not an employee - Dec. 1939 to Oct. 1945, the latter when I became a full-time staff member, as VHF Editor.

PS: Somewhere (I hope) in mover's boxes that we've not yet emptied, I have a photo and some newspaper clippings relating to Springfield Radio Association activities of the early 20's or perhaps even earlier. The photo was (apparently) a commercial job. and the faces are all well-defined. I recognized some of my high school friends in it, and before I was through studying it, and waiting for my memory to dig up some long-forgotten names, I had identified most of them.

I think this material was set to me by an HCARA member. I can't now recall his name, but if I find the stuff, his and other's names will come back to me. I can recall several of them, now, from memory, and can almost say where each is, in the photo. This info should be invaluable to you, if you're going back a long way in your historics work.

We will be returning to Connecticut in June. We will have use of the house next to our former Canton home and will probably be with the Sheedy's in Windsor, part of the time. Would be glad to huddle with you on historical matters, if you wish.

Ed Tilton W1HDQ

Hampden County Radio Association
Repeater Sub-Group Guidelines

This document will define the structure and format of the Hampden County Radio Association Repeater Sub-Group.

HCRA Repeater Sub-Group Committee

The duties of this committee shall include: the disposition of all funds allocated to the HCRA Repeater Sub-Group by the Board of Directors of the HCRA; recommend guidelines as to the operation of the affiliated repeaters; and regulate the use of any property owned by the HCRA utilized by the affiliated repeaters. The committee shall recommend the initiation, termination and/or modification of any and all affiliated repeater lease agreements. The members of the HCRA Repeater Sub-Group committee shall meet no less than four times per year. For all official meetings of the committee, at least two committee members must be in attendance, and the minutes of the meeting must be presented to the Board of Directors and filed with the Secretary of the HCRA.

Appointment of Committee

The HCRA Repeater Sub-Group committee shall consist of three licensed HCRA Repeater Sub-Group members. The chairman of the committee shall be a member of the HCRA Board of Directors. The remaining members shall be nominated by the chairman of the Repeater Sub-Group, and approved by a majority vote of the HCRA Board of Directors. The chairman shall report to the HCRA Board of Directors. The committee members' terms shall run concurrently with the chairman's term on the HCRA Board of Directors. All other HCRA Directors and Officers, and the trustees and owners of the affilliated repeaters, shall be ineligible for positions on the HCRA Repeater Sub-Group committee.

Membership

Any member in good standing of the HCRA may become a member of the HCRA Repeater Sub-Group upon payment of annual dues. Any member in good standing of the HCRA Repeater Sub-Group shall be entitled to use the affiliated repeaters.

Funding

The dues for HCRA Repeater Sub-Group membership shall be determined annually by the HCRA Board of Directors with recommendation from the Repeater Sub-Group committee. Funds for the HCRA Repeater Sub-Group will be allocated from annual Repeater Sub-Group dues to the individual repeater(s) as designated by the individual member on the dues form established by the HCRA Repeater Sub-Group committee. Individual contributions may be designated for a specific repeater. Undesignated contributions may be allocated at the discretion of the HCRA Repeater Sub-Group committee by a majority vote. The HCRA Repeater Sub-Group shall not be entitled to any funds from the HCRA general funds. All financial transactions will conform to generally accepted accounting principals.

DX CALLBOOOKS FOR SALE!
CONTACT RON BEAUCHEMIN
413-739-5228
$18.00

HCRA BANQUET JUNE 6th

FLEA MARKETS

Sunday April 6 Southington, CT
Sunday April 13 Framingham, MA
Saturday April 26th Fitchburg, MA
Sunday May 4 West Springfield, MA
Saturday May 10 Deerfield, NH
Sunday May 18 Dalton, MA
Sunday June 8 Newington, CT

VEC EXAMS:

Sat. May 24	Wilbraham High School		
Weds. July 9	"	"	"
Sat. Dec 13	"	"	"

Contact KA1KPH at 413-786-7966
for more information.

Hampden County
Radio Association
P.O. Box 482
West Springfield, MA 01090

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86/10 AC1T